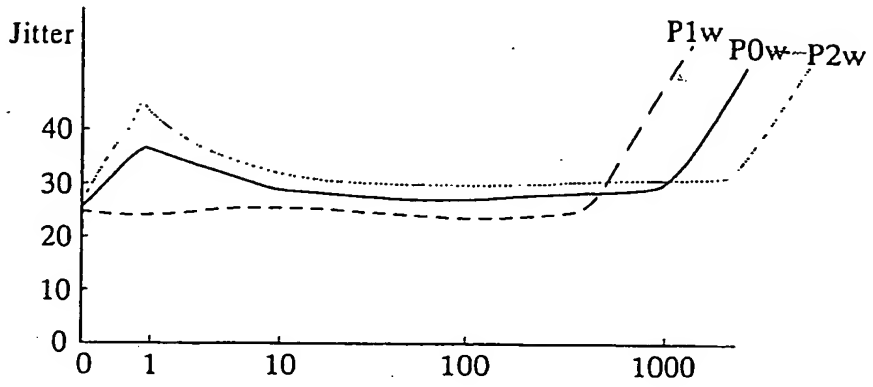
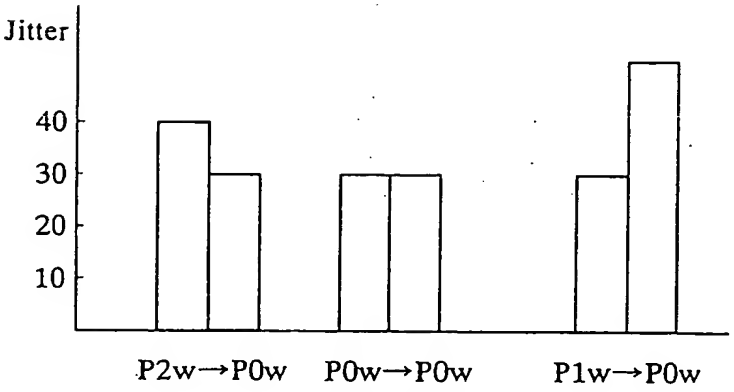
Fig.1A



Number of Overwrite times

Fig.1B

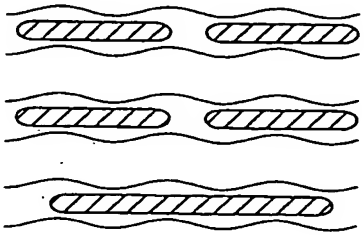


P2w<P0w<P1w

P0w: Optimum Recording Power

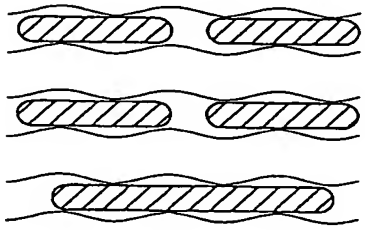
Recording Power P2w

Fig. 2A



Recording Power P0w

Fig. 2B



Recording Power P1w

Fig. 2C

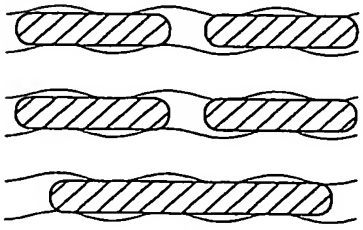


Fig.3A

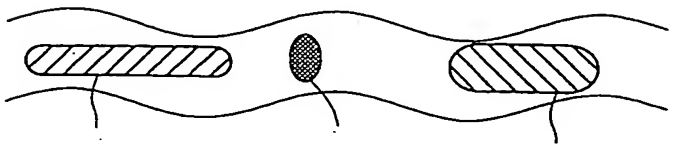


Fig.3B

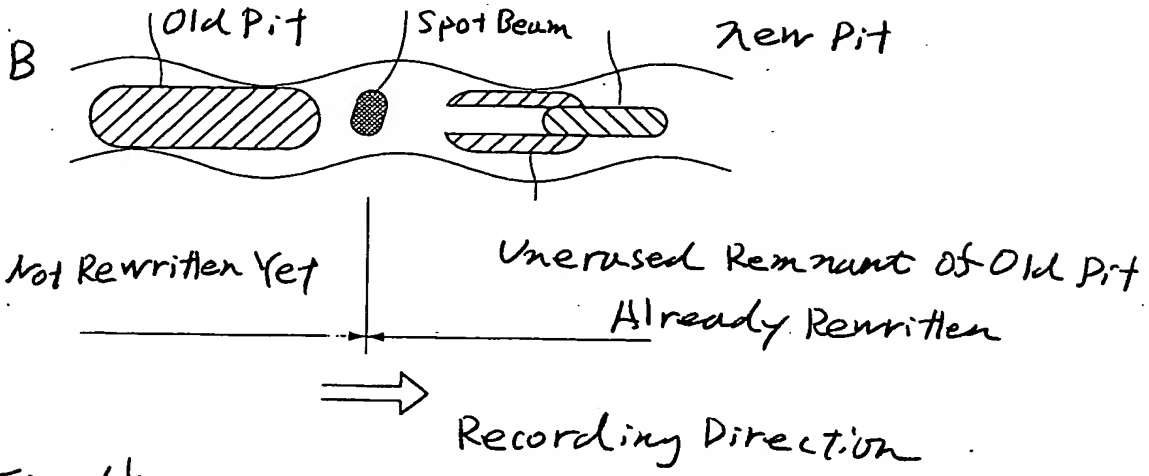


Fig.4

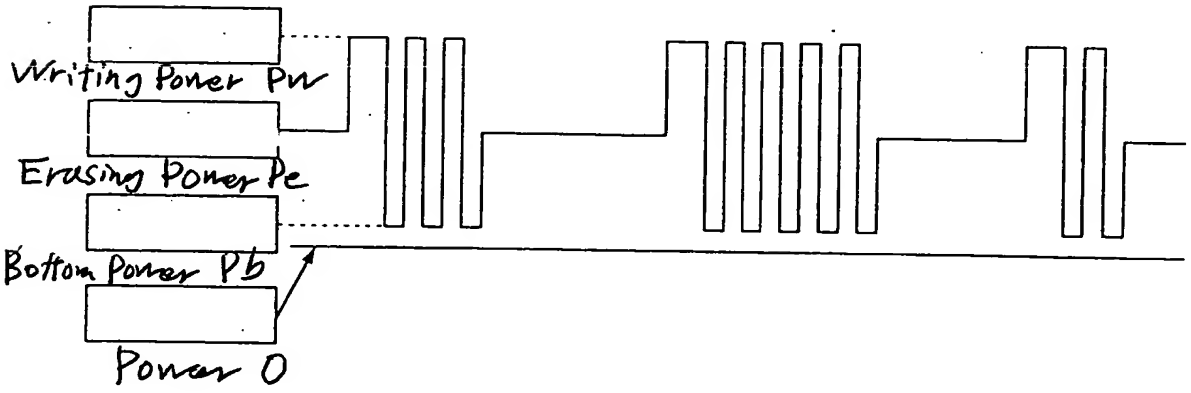


Fig. 5A

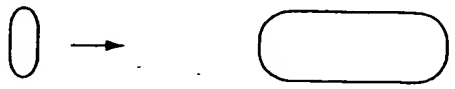


Fig. 5B

Fig. 5C

Fig. 5D

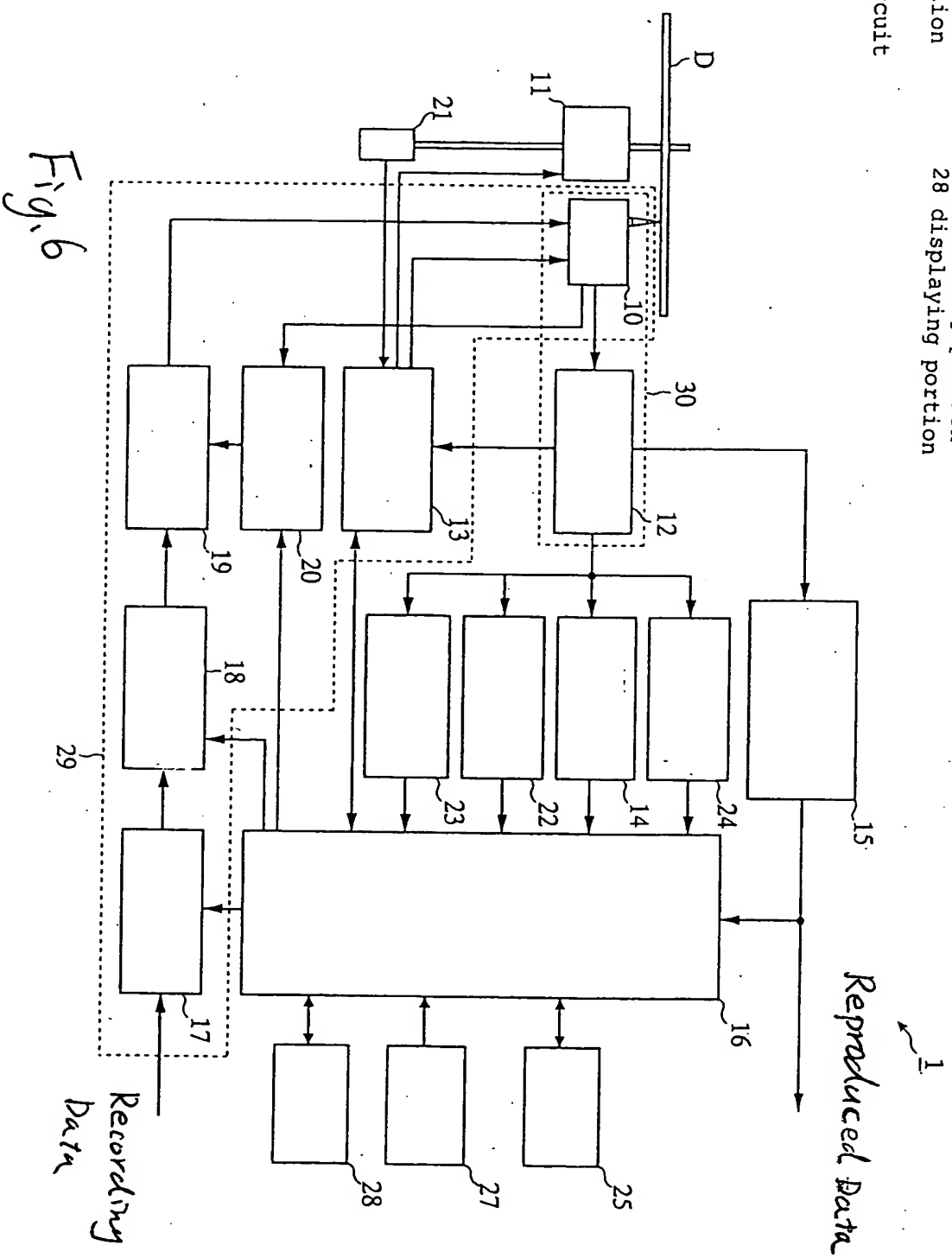


Fig. 6

12 RF amplifier
13 servo circuit
14 ATIP detecting circuit
15 decoder
16 control portion
17 encoder
18 strategy circuit
19 laser driver
20 laser-power control circuit
22 crosstalk detecting circuit
23 envelope detecting circuit
24 reproduced-signal quality detecting circuit
25 storing portion
27 operating portion
28 displaying portion

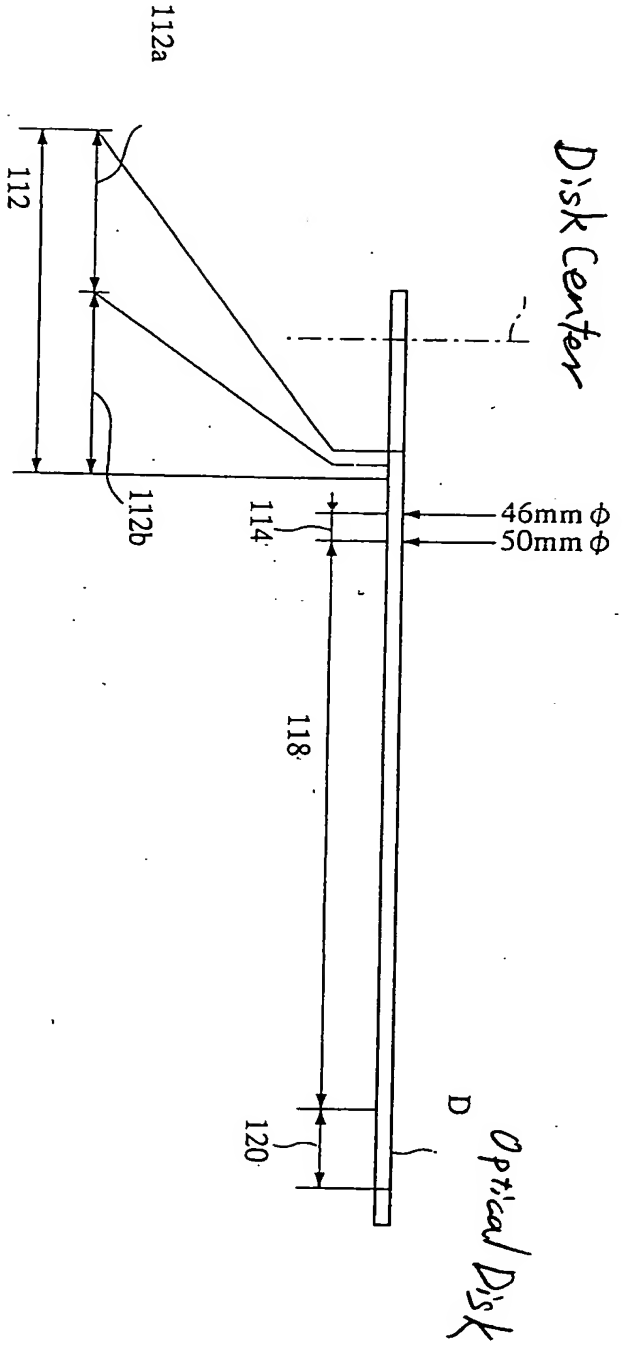

112a
112
112b
Disk Center
46mm φ
50mm φ
114
118
120
D
Optical Disk

Fig. 8A

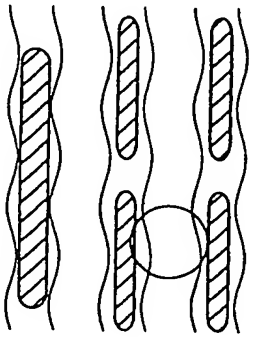


Fig. 8B

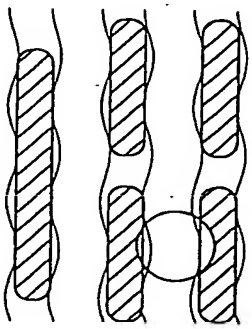


Fig. 9

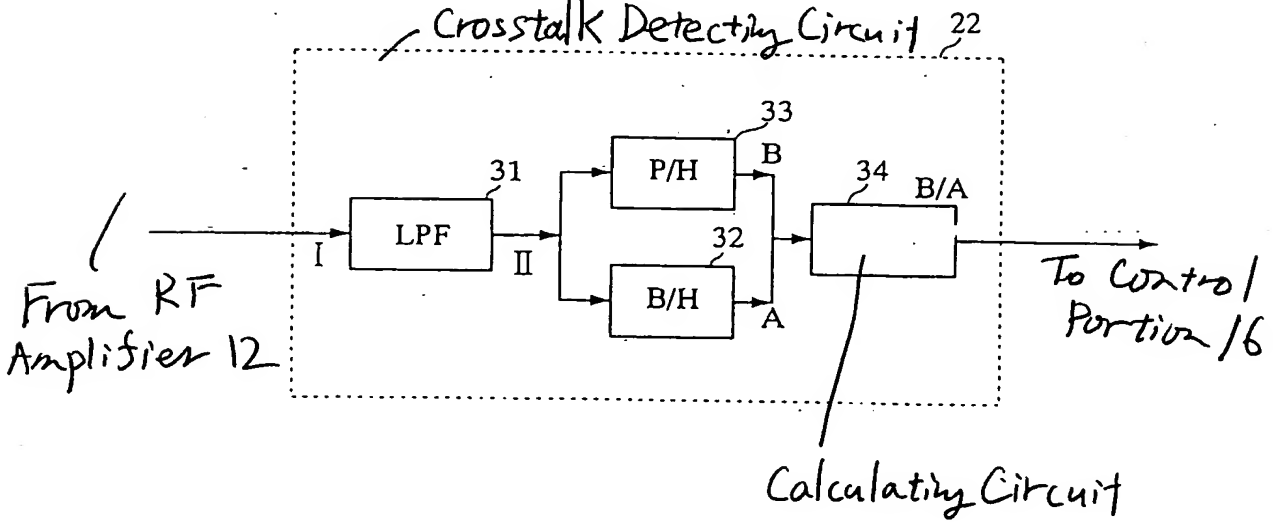


Fig.10A

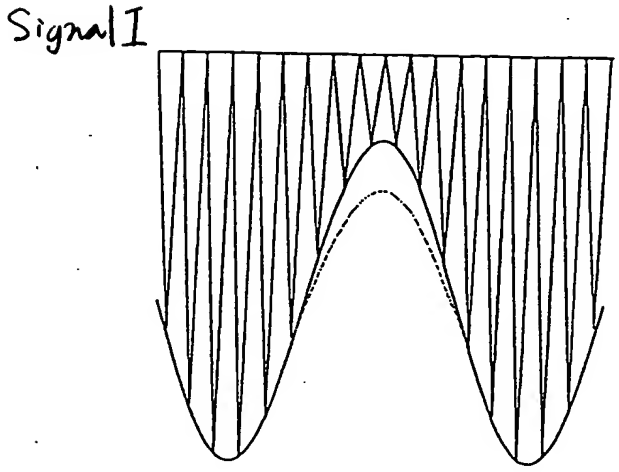
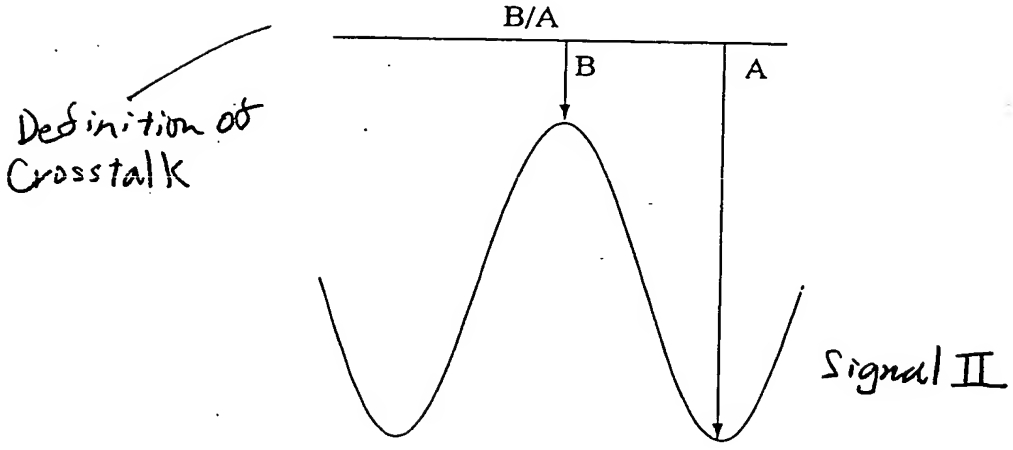
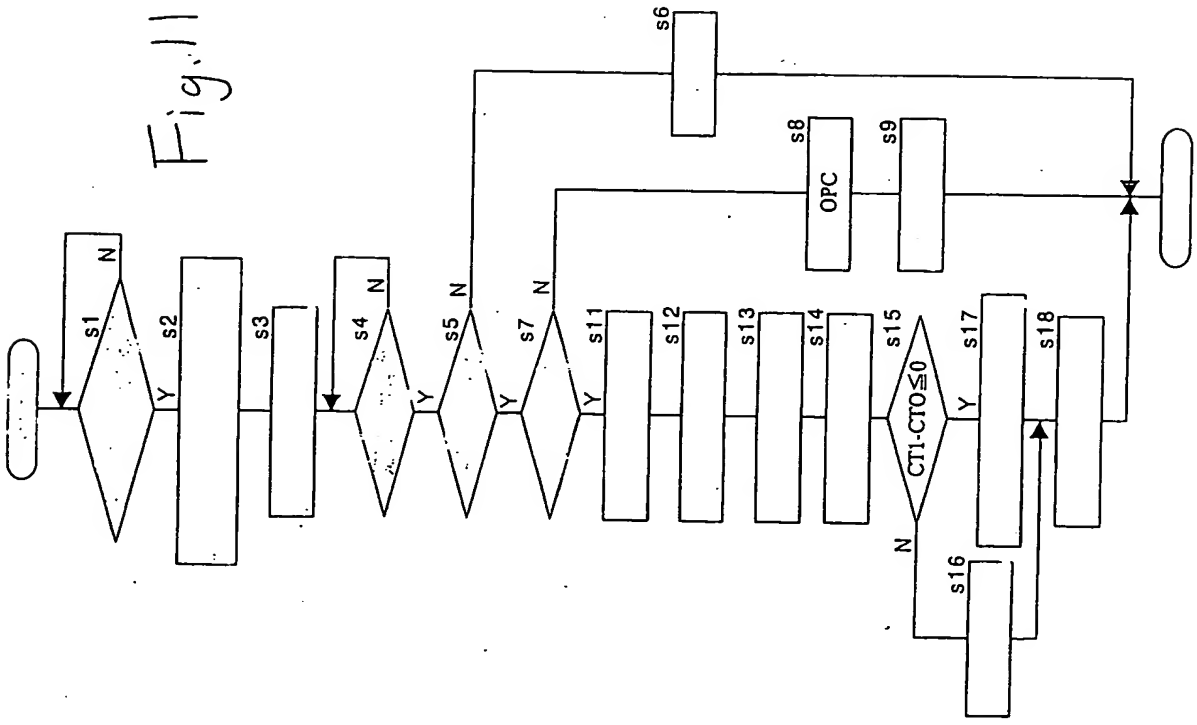


Fig.10B



start
S1 Optical disk set ?
S2 acquire initial information of the optical disk,
decide the type of disk
S3 display an inquiry of process
S4 Processed input present ?
S5 Recording process ?
S6 reproducing process
S7 overwrite ?
S9 record the data
S11 reproduce the old data
S12 acquire CT1
S13 read CT0 from the storing portion
S14 calculate CT1-CT0
S16 change recording conditions
S17 set the recording conditions to initial values
S18 overwrite
end

Fig. 11



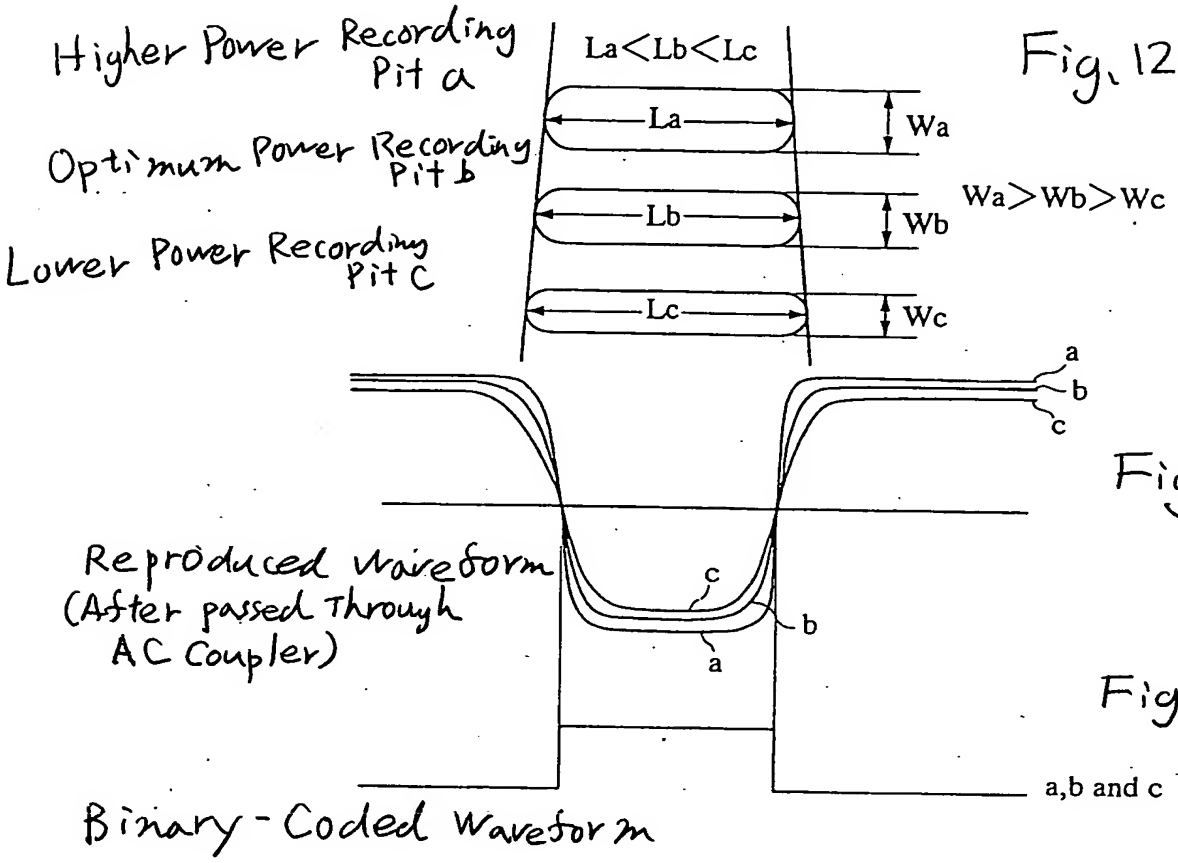


Fig. 12A

Fig. 12B

Fig. 12C

Fig. 13A

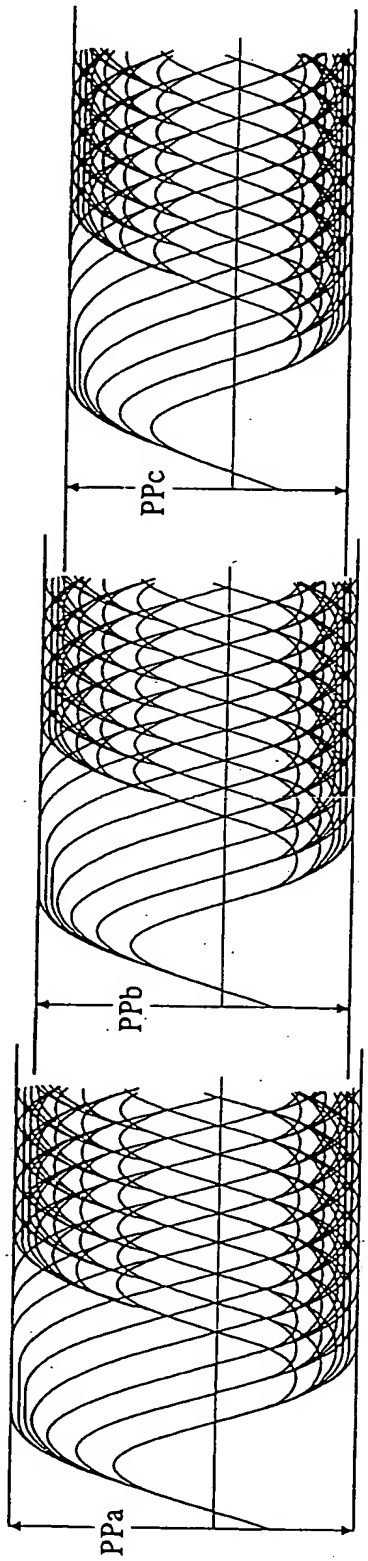
Higher Power Recording Eye Pattern

Fig13B

Optimum Power Recording Eye Pattern

Fig. 13C

Lower Power Recording Eye Pattern



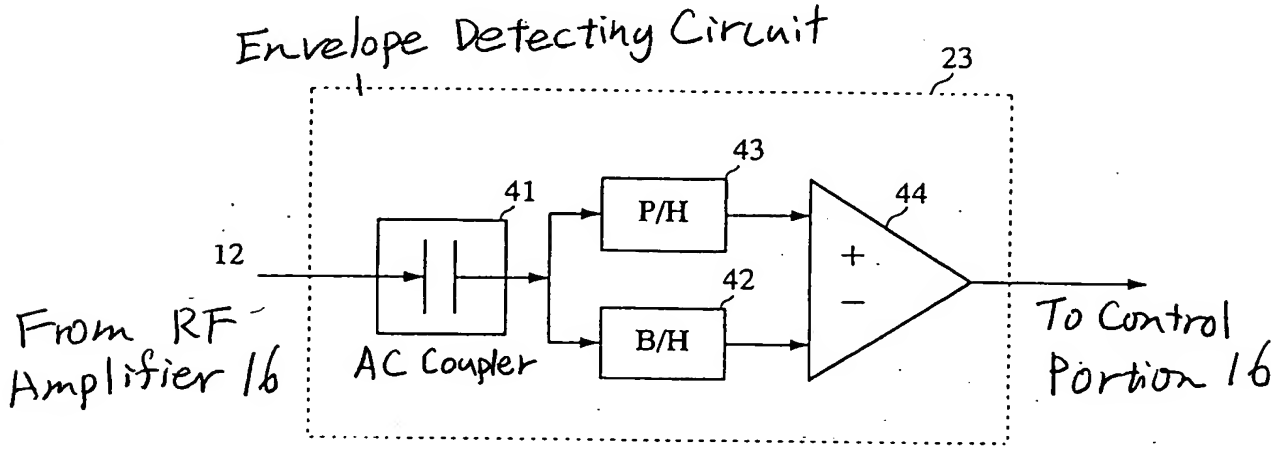

Envelope Detecting Circuit
23
43
41
P/H
44
12
+
42
B/H
From RF Amplifier 16
AC Coupler
To Control Portion 16

Fig. 14

start
S21 Optical disk set?
S22 acquire initial information of the optical disk, decide the type of disk
S23 display an inquiry of process
S24 Processed input present?
S25 Recording process?
S26 reproducing process
S27 overwrite?
S29 record the data
S32 reproduce the data being recorded at an optimum recording power
S33 acquire and hold a PP value P0
S34 reproduce the old data
S35 acquire a PP value P1
S37 change recording conditions
S38 set the recording conditions to initial values
S39 overwrite
end

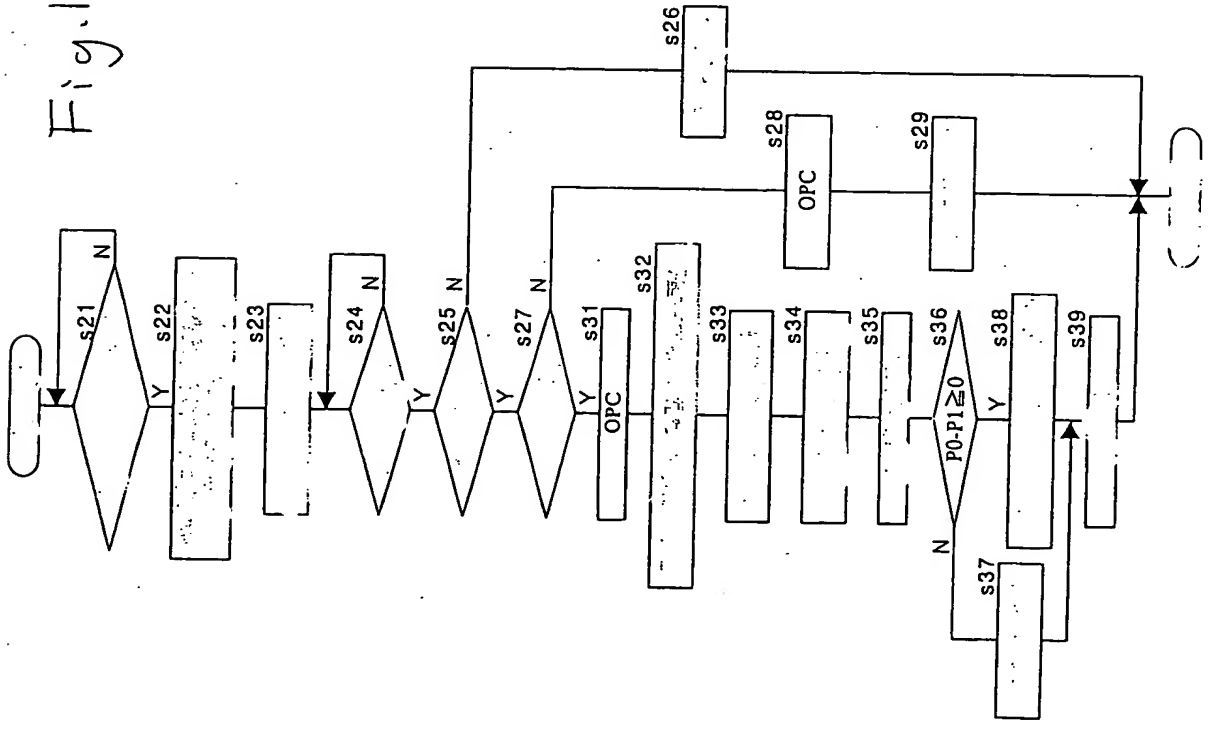



Fig. 15